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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,107	09/09/2003	Yasuhiko Shimotsuma	81872.0053	9948

26021 7590 04/25/2007
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EXAMINER

HEALY, BRIAN

ART UNIT PAPER NUMBER

2883

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/658,107

Applicant(s)

SHIMOTSUMA ET AL.

Examiner

Brian M. Healy

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 7, 8, 11, 13, 14 and 17-19 is/are rejected.
- 7) ☒ Claim(s) 4, 6, 9, 10, 12, 15 and 16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB 08)
Paper No(s)/Mail Date 09092003
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Priority

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 09/02/2002 and 03/26/2003. It is noted, however, that applicant has not filed a certified copy of the priority documents in the application as required by 35 U.S.C. 119(b).

Allowable Subject Matter

Claims 4,6,9,10,12,15, and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Neither Ehbets et. al., U.S.P. No. 6,545,808 and Hill et. al., U.S.P. No. 5,367,588 teaches or suggests: the pitches in the periodic structure are 1um or less (claim 4); the diameter of the spherical body being in the range of 0.1 um to 1mm (Claim 6); having predetermined intervals of 1um to 1mm (Claim 9); the regions having the periodic structure is formed in an isotropic material which originally presents birefringence (claim 10); having a pulse width of the pulse laser in the range of 10-12 to 10-15 seconds (claim 12); having the pulse repetition frequency ; the power density of the pulse laser condensed on the substrate is not less than 10(8)W/cm2 (claim 15) and the pulse energy of the pulse laser condensed on the substrate is in the range of 0.1 u J/pulse to 10uJ/pulse (Claim 16).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 7,8,11, 13,14,17,18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Hill et. al., U.S.P. No. 5,367,588.

Hill et. al. 588' teaches (Figs.1-6) an optical structural body and method of making same comprising: a pulsed laser (pulse laser has a pulse repetition rate of 50HZ) light source 7 which transmits light through a light transmitting substrate 11 including a grating mask 5 which causes a photoinduced , light condensed pattern (It is

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inherent that the laser light forms refractive index zones in parallel to the polarized magnetic field direction of the pulsed laser and that gratings are routinely used in optical wavelength multiplexing) on an optical fiber 3 which causes changes in refractive index that induces or generates a periodic pattern of high and low regions of refractive index forming an optical grating of a predetermined pitch, which clearly, fully meets Applicant's claimed limitations.

Claims 1-3, 5, 7,8, 11, 14,17,18 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Ehbets et. al., U.S.P. No. 6,545,808.

Ehbets et. al. 808' teaches (Figs.1-13) an optical structural body and method of making same comprising: a pulsed laser light source (source not shown, but is clearly implied) which transmits light through a light transmitting substrate 27 including a grating mask 29 which causes a photoinduced , light condensed (pattern can be spherical) pattern 21 (It is inherent that the laser light forms refractive index zones in parallel to the polarized magnetic field direction of the pulsed laser and that gratings are routinely used in optical wavelength multiplexing) on a substrate 17 which causes changes in refractive index that induces or generates a periodic pattern of high and low regions of refractive index forming an optical grating of a predetermined pitch, which clearly, fully meets Applicant's claimed limitations.

The following references are also cited by the Examiner as being pertinent prior art: Borrelli et. al., U.S. Patent Application No. US 2001/0000714A1 (Figs.1-5), Starodubov et. al., U.S.P. No. 6,344,298 (Figs.1-6), Chandross et. al., U.S.P. No.

3,993,485 (Figs.1-9), Aktins et. al., U.S. No. 5,157,747 (Fig.1), Rothenberg, U.S.P. No. 7,068,884 (Figs.1-17F), Snitzer et. al., U.S.P. No. 5,351,321 (Figs.1-16) and Mizrahi et. al., U.S.P. No. 5,636,304 (Figs.1-3).

A copy of PTO-1449 will be included in this office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian M. Healy whose telephone number is (571)272-2347. The examiner can normally be reached on Compressed. schedule Mon-Fri. 6AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571)272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

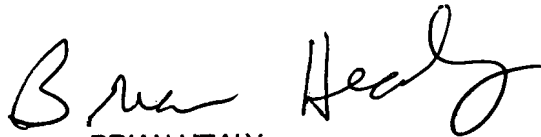
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Primary Examiner
Art Unit 2883


BRIAN HEALY
PRIMARY PATENT EXAMINER